

# PROJECT 22 – BENCHMARK STUDIES ABOUT CO2 ABATEMENT IN THE NATURAL GAS INDUSTRY

Standardization, calculations methodology and protocols to energy savings and CO2 abatement

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Research Centre  
for Gas Innovation

cleaner energy for a sustainable future

5th RCGI Workshop  
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20-21 August 2018

# Agenda

- New project structure
- Ongoing activities
- Project productions



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# Original project description

- International monitor of energy management standards and models
- International (ISO & UNIDO) activities of energy management system in promoting NG efficiency uses
- Analysis of NG industrial uses in potential sectors
- Follow up efforts of standardization & regulation of NG in industrial sectors



# Reshaped project description

- International monitor of energy management standards & CO2 abatement
- International (ISO & UNIDO) activities of energy management system in improving energy performance of NG chain
- Analysis of NG industrial uses & potential in Oil & Gas industry
- Follow up efforts of standardization and regulation of NG and measurement of CO2 abatement



# Project Analytic Structure (EAP)

Pj22

Climate change mitigation & CO2 abatement strategy review

International actions to promote climate change mitigation & CO2 abatement

Opportunities in the NG industry

Calculation methods for energy performance & CO2 abatement

MR&V related to climate change mitigation and CO2 abatement

Framework of stds & regulations for climate change & CO2 abatement



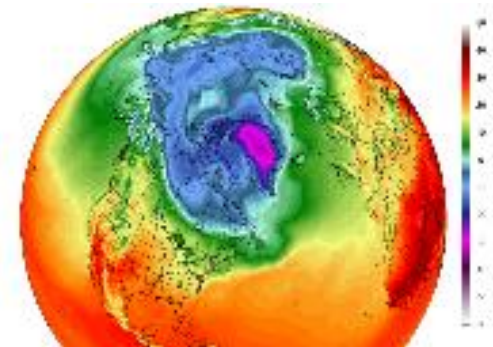
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# New structure of activities

- Act 1 – Climate change mitigation & CO2 abatement strategy review
  - Raising records on climate change mitigation initiatives
  - Identifying actions related to Kyoto and Paris accords
  - Evaluating strategies used for the carbon pricing mechanism
- Focus activities: Bruna
- Target for first results: AGO 2018





# New structure of activities

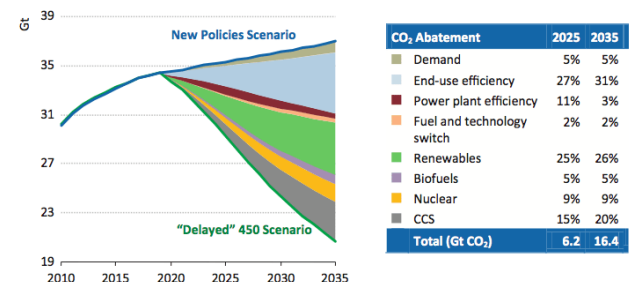
- Act 1 – Climate change mitigation & CO2 abatement strategy review
  - The Emergence of Carbon Trading
  - Cap and Trade x Command and Control regulation
  - The European Union Emissions Trading Scheme (EU ETS)
  - From Kyoto to Paris and perspectives after Paris



# New structure of activities

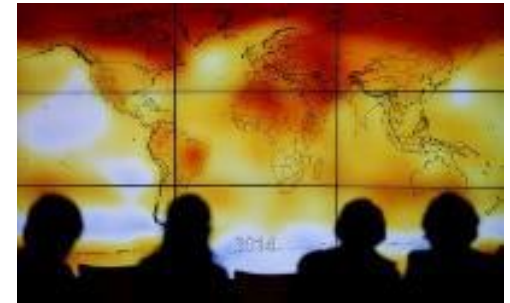
- Act 2 – International actions to promote climate change & CO2 abatement
  - Identify aspects of energy consumption & fugitive emissions
  - Analyze links between EnMgt & En performance & En consumption & CO2 abat.
  - Analyze actions and mechanisms to the reduction of fugitive emissions
  - Identify international reg & std initiatives related to GHG mitigation
- Focus activities: Alberto
- Target for first results: OCT 2018

Figure 3.15 ▸ World energy-related CO<sub>2</sub> emissions abatement in a "delayed" 450 Scenario relative to the New Policies Scenario



# New structure of activities

- Act 2 – International actions to promote climate change & CO2 abatement
  - Bibliography Review
    - CO2 & CH4 mitigation IPCC approach
  - UNECE
    - Pj CH4 Management - MRV - Dec 2019
  - TMBG TF7 Climate Change – Strategic Plan – Future Standards
    - Context COP 21 & UNFCCC / guide / meeting face to face Nov 2018
  - ISO TC207 / SC7 – GHG management
    - ISO 14064 (1, 2, 3), 14065, 14066, 14067 ... review
  - ISO TC301 – Energy management
    - top down & bottom up energy consumption methodology



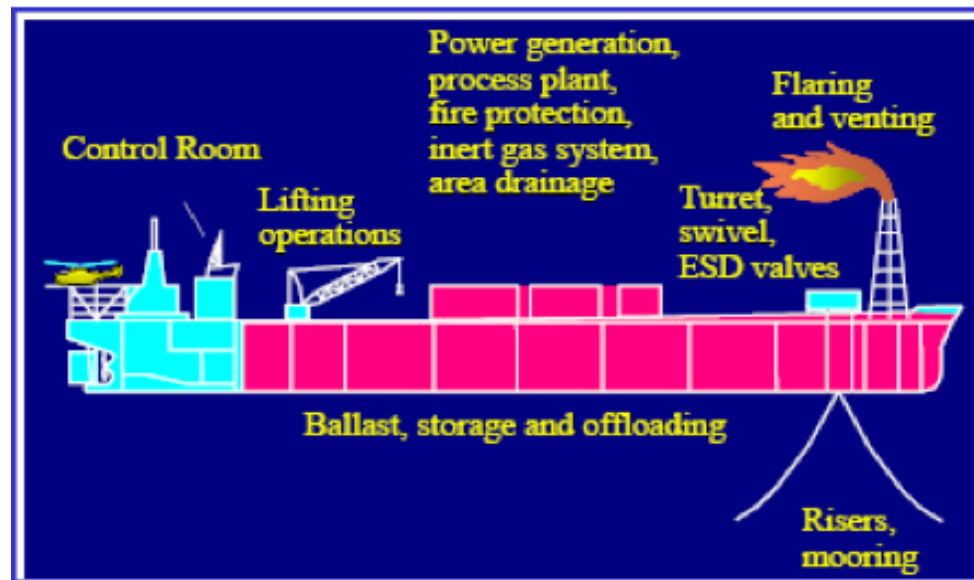
# New structure of activities

- Act 3 – Opportunities in the NG industry
  - Raising bib for analysis of NG industry activities
  - Identifying potential for energy savings in the NG industry act.
  - Identifying potential for fugitive methane emissions reduction in the NG industry activities.
  - Evaluating scenarios to energy savings and impacts on CO2 abat.
  - Evaluating scenarios to fugitive methane emissions reduction.
- Focus activities: Taluia
- Target for first results: SEP 2018



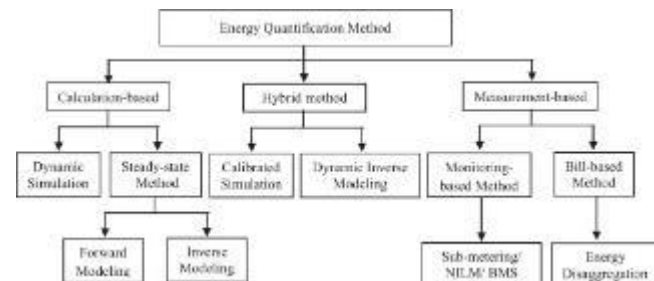
# New structure of activities

- Act 3 – Opportunities in the NG industry
  - Raising bib for analysis of NG industry activities
  - Defining the oil and gas chain
  - Characterize processes in FPSO (energy consumption & CH<sub>4</sub> fugitive)



# New structure of activities

- Act 4 – Calculation methods for energy performance & CO2 abatement
  - Raising bid on measuring energy savings and CO2 abatement
  - Identifying applicable calculation mechanisms and methodologies
  - Focus activities: Alexandre
  - Target for first results: SEP 2018







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# Production Structure

Focus on Brazil /  
Developing countries

NG Industry  
oriented

Historic of climate  
changes and Kyoto



Climate change mitigation  
& CO2 abatement  
strategy review

links between EnMS,  
energy savings and CO2



Energy performance as  
approach to promote  
CO2 abatement

Opportunities in  
the NG industry

opportunities for NG  
in industry



technologies for NG  
promotion in industry



Movements and barriers  
for EnMS promotion



Relationship energy  
savings & CO2 abatement

Scenarios and potential  
for NG sector



Calculation  
methodologies



Calculation methods for  
energy performance &  
CO2 abatement

M&V and reporting of  
energy savings & CO2  
abatement

EnEf regulatory basis  
for promotion



Framework of standards &  
regulations for energy  
performance & CO2  
abatement



Centro de Pesquisa  
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cleaner energy for a sustainable future

# THANK YOU



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